

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference APB/LBH/Y4114	FOR FURTHER ACTION		See item 4 below
International application No. PCT/GB2004/004083	International filing date (<i>day/month/year</i>) 27 September 2004 (27.09.2004)	Priority date (<i>day/month/year</i>) 02 October 2003 (02.10.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant PROFLUX SYSTEMS LLP			

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 <i>bis</i> .1(a).																								
2.	This REPORT consists of a total of 6 sheets, including this cover sheet. In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.																								
3.	<p>This report contains indications relating to the following items:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Box No. I</td> <td style="width: 60%;">Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).																								

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 740 14 35	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> Date of issuance of this report 03 April 2006 (03.04.2006) </td> <td style="width: 50%; border: none;"> Authorized officer <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Nora Lindner</div> </td> </tr> <tr> <td colspan="2" style="border: none;"> Telephone No. +41 22 338 89 65 </td> </tr> </table>	Date of issuance of this report 03 April 2006 (03.04.2006)	Authorized officer <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Nora Lindner</div>	Telephone No. +41 22 338 89 65	
Date of issuance of this report 03 April 2006 (03.04.2006)	Authorized officer <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Nora Lindner</div>				
Telephone No. +41 22 338 89 65					

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 09 FEB 2005

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To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/GB2004/004083

International filing date (day/month/year)
27.09.2004

Priority date (day/month/year)
02.10.2003

International Patent Classification (IPC) or both national classification and IPC
F17D1/17, C10L1/32

Applicant
ADVANCED GEL TECHNOLOGY LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2004/004083

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2004/004083

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-10,13-20,22-42
Inventive step (IS)	Yes: Claims	
	No: Claims	1-43
Industrial applicability (IA)	Yes: Claims	1-43
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

- D1: US-A-5 641 433 (CHIRINOS ET AL) 24 June 1997 (1997-06-24)
- D2: US-A-4 896 723 (HOSKIN ET AL) 30 January 1990 (1990-01-30)
- D3: WO 98/12239 A1 (BRADFORD UNIVERSITY; EAGLAND, DONALD; CROWTHER, NICHOLAS, JOHN) 26 March 1998 (1998-03-26)

1.1) Document D1 describes (see abstract, column 2, lines 36 - 49) a method for reducing the viscosity of an oil which is arranged to flow along a fluid flow path, said method comprising contacting the viscous composition with an aqueous treatment fluid comprising polyvinyl alcohol (see claim 9 and column 3, lines 63, 64) in an amount of 0,25 % by wt. to 5 % by wt. of the aqueous solution. As the composition is pumpable a man skilled in the art would expect that its viscosity is less than 300 cP. The method is intended for transportation of the fluids from a production mean to a refinery (see column 1, lines 21-23). The treatment fluid is contacted at a production means and the flow path includes a conduit arranged downstream of the production means. The emulsion contains less than 70 % by wt. water (see claim 2). The treatment fluid (see column 3 lines 27-29 and 63, 64) is water comprising 0,5 % by wt. to 5 % by wt. of surfactants and 0,25 % by wt. to 5 % by wt. polymers, therefore its viscosity is expected to be approximately the viscosity of water (1 cP).

Therefore the subject matter of at least claims 1-7, 9,10, 13-20, 22, 23, 38, 40-42 is not novel over document D1.

1.2) Claim 1 presently on file describes a method characterized by technical features and purposive features. The purposive features (in particular the purpose of reducing the viscosity of a viscous fluid) are regarded as not distinguishing the subject matter of the present application from the state of the art.

Thus claim 1 describes a method comprising contacting a viscous composition with a fluid comprising an, optionally crosslinked, polymeric material including -O- pendent moieties.

1.3) Document D2 describes (see claims 1,4) a method comprising contacting an aqueous fluid comprising aldehyde crosslinked polyvinyl alcohol with an oil in a

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/GB2004/004083

production well. The treatment fluid is contacted at a production means (production well) and the flow path includes a conduit arranged downstream of the production means and upwardly from below ground. A man skilled in the art would expect that at a certain extent the treatment fluid disperses the oil. Example 14 (see table I) describes a treatment fluid comprising 2,5% by wt polyvinyl alcohol, 0,5 % by wt phenol crosslinker and 0,525 % by wt aldehyde crosslinker. Therefore the subject matter of at least claims 1,4-9, 18-20, 22, 23, 25-31, 41 is not novel over D2.

1.4) For the same reason as reported above in paragraph 1.2 document D3 (see claims 8, 11 and 15) is regarded as anticipating the subject matter of at least claims 1, 18-20, 22-37.

2) Dependent claims 11,12,21,43 do seem to not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.